

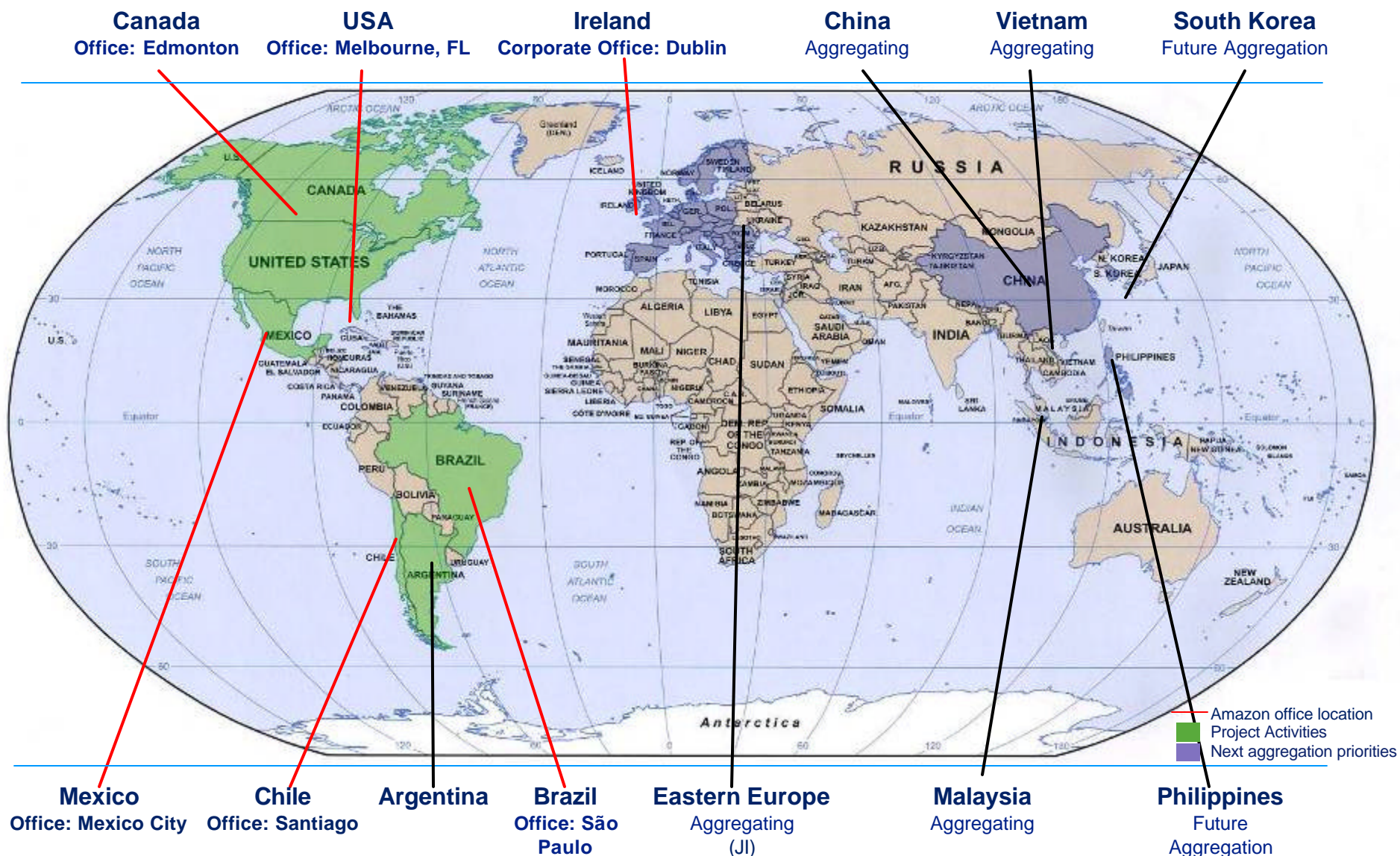


The True Solution for Managing Climate Change

Where Are The Dollars For Agriculture From Green House Gases?

Leader in the production and sale of agriculturally derived greenhouse gas (GHG) emission reduction offsets

- ◆ Corporate Headquarters in Dublin, Ireland
- ◆ USA Headquarters in Melbourne, FL
- ◆ Founded to generate emission reductions from livestock farms to reduce the adverse impacts of GHG emissions related to global warming and climate change and at the same time provide environmental co-benefits
- ◆ Over 800 projects now underway in Latin America
- ◆ > 1500 projects underway in Latin America by 1Q07
- ◆ AgCert offers a standardized *process* to produce uniform offsets in agriculture - independent of sourcing location
- ◆ Globally applicable GHG emission reduction methodology has been approved by the UNFCCC (AM0016)



What Does AgCert Do?

An Aggregator / Developer who creates and markets a commercial product, GHG Emission Reductions (ERs):

Aggregation - Links farms (production activities) with potential buyers in;

- Diverse geographies
- Diverse farming operations

Developer – develops projects using methodologies based upon Intergovernmental Panel on Climate Change (IPCC) science.

Uses a standardized *process* to produce uniform offsets on large scale

- ◆ Proprietary information management system
- ◆ Aggregates (pools) and sells offsets to emitters

Provides livestock farmers with turnkey manure management solutions to:

- ◆ Manage effluent, capture methane, destroy (combust) methane
- Qualify / quantify GHG emissions and create offsets

AgCert Methodology AM0016 has been approved by the UNFCCC

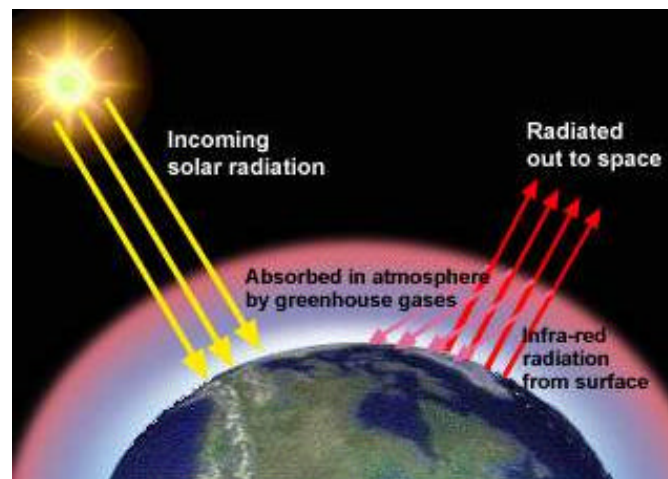
- ◆ Covers swine, dairy (beef), poultry, sheep, buffalo, goats
- ◆ Globally applicable (all climates)

What is Global Warming?

The Greenhouse Effect is a natural process that maintains the earth's temperature at levels hospitable for life

- ◆ Energy from the sun warms the earth
- ◆ The earth absorbs heat from the sun and radiates it back into space in the form of infrared radiation
- ◆ About 1% of the earth's atmosphere is composed of greenhouse gases (GHG), primarily water vapor, carbon dioxide, ozone, methane, and nitrous oxide.
- ◆ Together, these gases reflect enough heat back to earth to maintain the average temperature of the atmosphere at around 60° F.
- ◆ Without the greenhouse effect, the earth would be a cold, uninhabitable place.

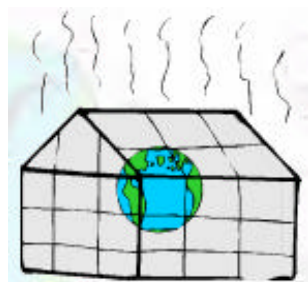
When solar gain and re-radiation are balanced, there is no net warming...



At issue is humankind's role in enhancing the greenhouse effect, contributing to overall global warming.

- ◆ **Deforestation** – Trees remove CO_2 from the air. Destruction of trees reduces the number of trees available to remove CO_2 , and releases stored CO_2 .
- ◆ **Agriculture** – Methane is produced when bacteria decomposes organic matter. About $\frac{1}{4}$ of global methane emissions from human activities comes from livestock and the decomposition of animal manure.
- ◆ **Fossil Fuels** – The supply and use of fossil fuels (burning of coal, natural gas and oil) accounts for about $\frac{3}{4}$ of humankind's CO_2 emissions.
- ◆ **Industrial** – A wide range of processes create “man made” GHG – such as SF_6 , HFCs and PFCs.

These gases, plus water vapor, trap Infra Red (heat) energy that is released from the Earth's surface. GHG stays in the atmosphere for decades or centuries



Greenhouse Gas	Man-made Causes	Natural Causes
Carbon Dioxide (CO ₂) GWP = 1	Combustion of coal, natural gas for electricity generation, petroleum products including fuel.	Volcanoes, trees, forest fire, vegetation, oceans
Methane (CH ₄) GWP » 21	Production, transportation of coal and natural gas; decomposition of waste in landfills	Decomposition, animal waste, wetlands, natural gas
Nitrous Oxide (N ₂ O) GWP » 310	Fertilizers; Industrialization combustion of fossil fuels.	Moist soils
Hydrofluorocarbons (HFCs) GWP » 1,000s	Aerosol additives	
Perfluorocarbons (PFCs) GWP » 1,000s	Aluminum Production	
Sulfur Hexafluoride (SF ₆) GWP » 16,900	Semiconductor manufacturing processes.	

GHG is measured in metric tons of CO₂e
(where e = equivalents)... based upon a consideration of GWPs

The US will ultimately be forced to participate in GHG emission reduction programs

- ◆ Compliance requirements
- ◆ Proxy actions
- ◆ Directors and officers insurance (Carbon Disclosure Project & Swiss RE)
- ◆ Trade barriers
- ◆ Litigation
- ◆ EU ETS / Kyoto
 - ◆ US Multi-nationals already feeling the “compliance pinch” abroad
 - ◆ US voluntary standards do not satisfy international standards for protocol development, reporting, auditing, compliance

Emission reduction market value – quality and reality differentiates

- ◆ EUA: ~ €16-25 (\$20.00-30.00)
- ◆ CER: ~ €5-22 (\$6.25-24.00)
- ◆ US ER: ~ \$2.10 – \$4.50

Agriculture produces 20% of the world's greenhouse gases

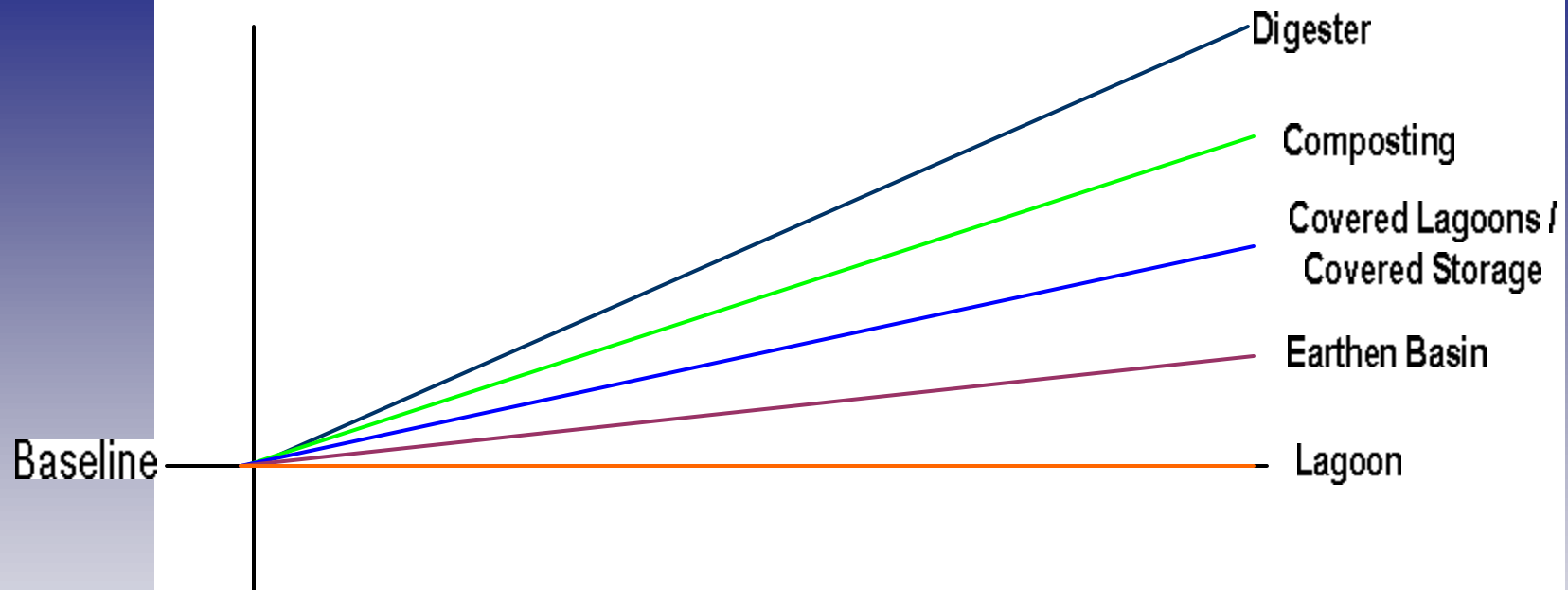
- ◆ Therefore has the potential to be the single largest source of affordable offsets
- ◆ Agricultural sector continues to grow – offering increasing opportunity to create offsets
- ◆ Project implementation cycle very short (weeks/months – not years)
- ◆ Powerful positive environmental co-benefits
- ◆ Ideal opportunity to foster INDUSTRY ? AGRICULTURE partnerships

Agricultural sources in the US and Canada run a HUGE risk of becoming point sources vs. emission reduction suppliers due to:

- ◆ Lack of defined policy
- ◆ Role of sequestration hasn't been defined – but potential is HUGE
- ◆ Inappropriate baseline and verification definitions/standards
- ◆ Lack of country-wide GHG mitigation initiative(s)
- ◆ “Global realities” - No recognition of existing US efforts via Kyoto, EU ETS
- ◆ Lack of approved agricultural methodologies or verification protocols
- ◆ Perception of voluntary vs. mandatory reductions
- ◆ Denial



Agricultural “Baselines” Will Determine Agriculture’s Capacity to Contribute...



In this manure management example, open air lagoons are the “baseline”. Any practice or technology enhancement yielding improved GHG performance (compared to the baseline) qualifies for ER consideration...

Similar baselines are being derived for other agricultural practices, such as tillage, land application of manure, etc.

Incremental Technology Progression

Manure Management (Methane and Nitrous Oxide Avoidance)



Open Lagoon
(baseline)



Covers



Anaerobic Digester

Tillage



Invasive
(baseline)



Minimum Till



No Till

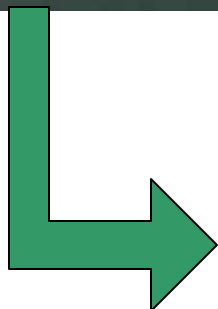
Practice Change Create Reductions?



- Emission Reductions (ERs) are created by a difference in the amount of emissions from a defined baseline.
- ERs are created by improved manure handling practices such as covering a lagoon/earthen basin with a biocover or non-permeable cover, the use of a Slurrystore™, deep pit confinement buildings, or anaerobic digesters.



Less Methane
Less Nitrous Oxide
—
Less CO₂e
—
Emission Reduction

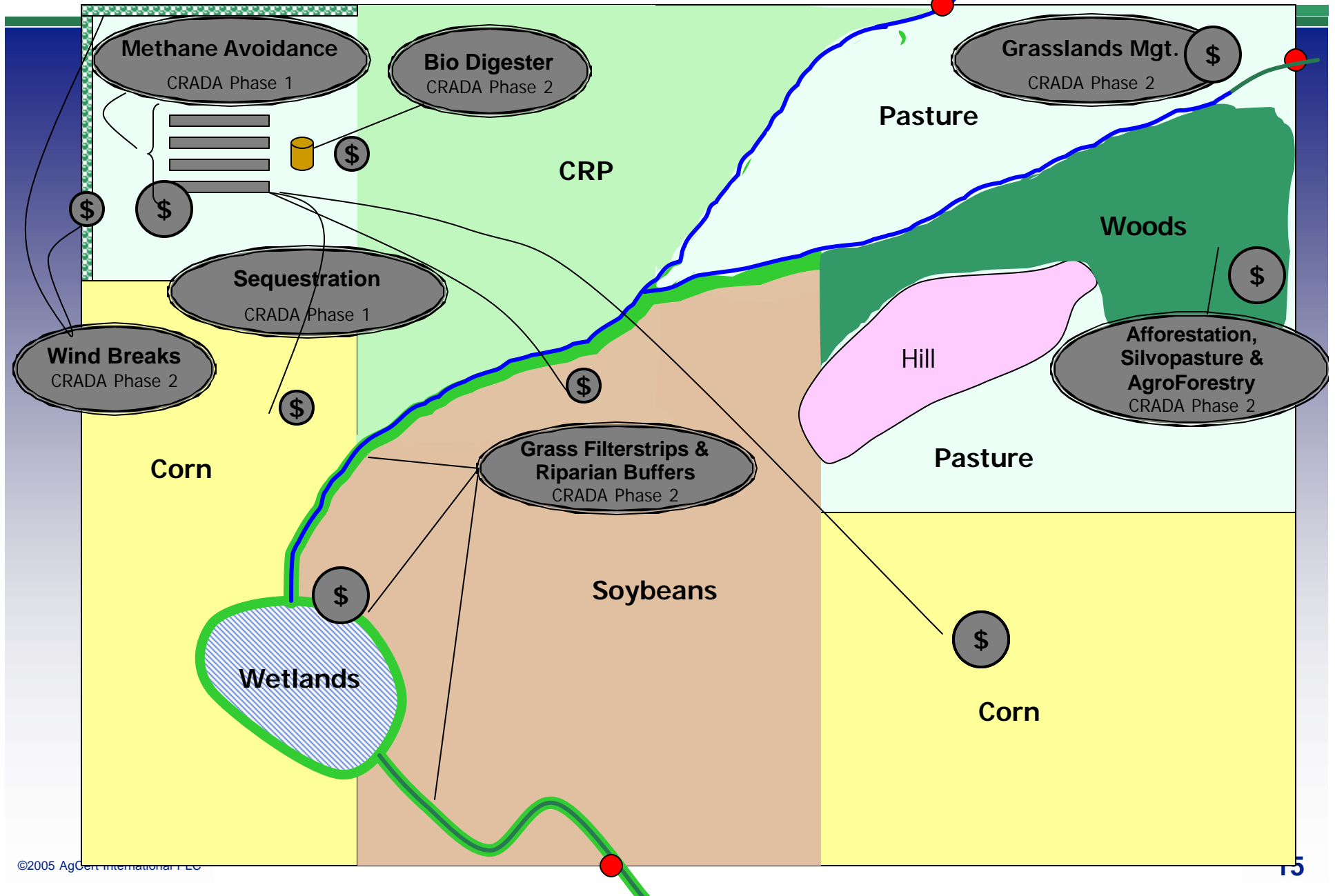




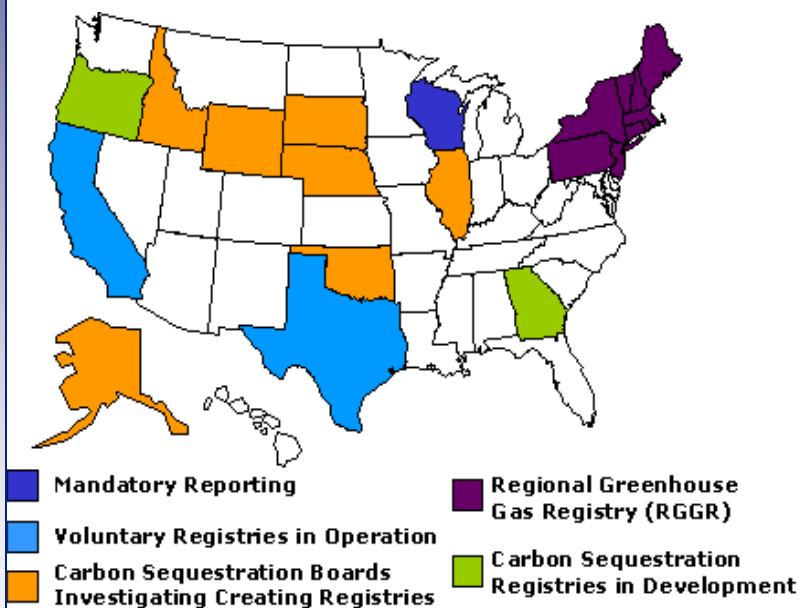
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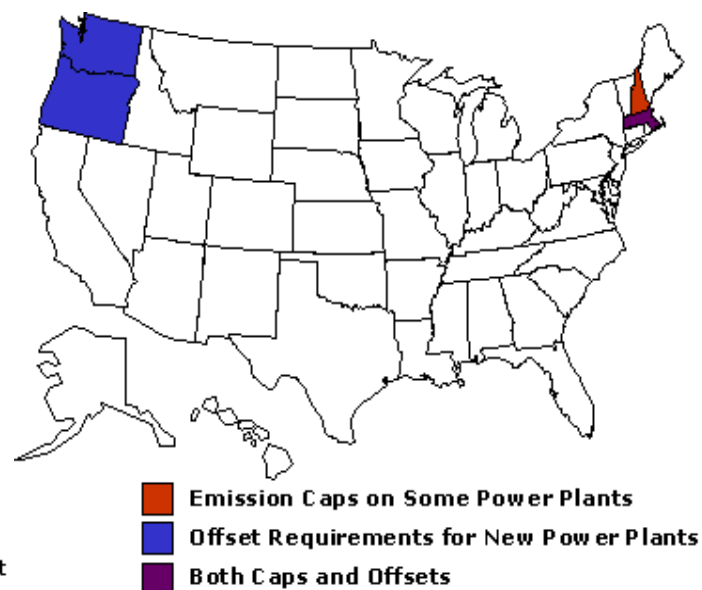
Farm ERs: Phased Approach

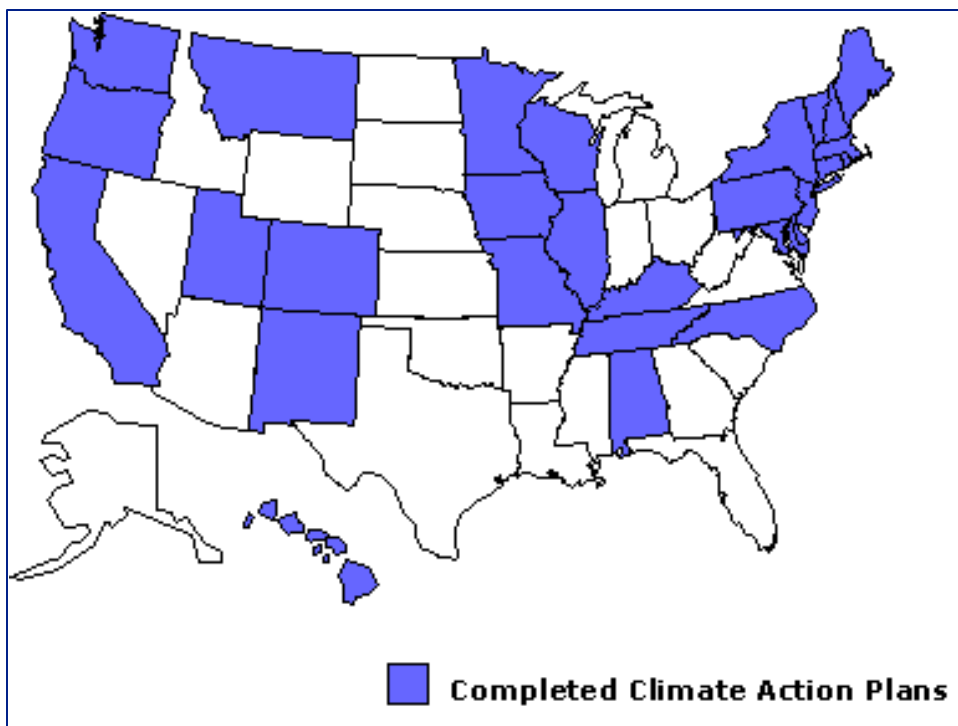


States with GHG Reporting & Registries



States with a Carbon Cap or Offset Requirement for Power Plants

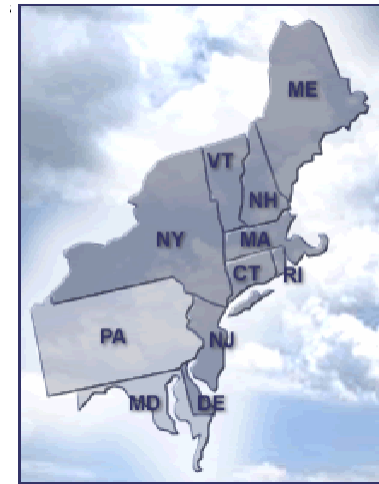




- ◆ Climate Action Plans detail steps that the states can take to reduce their contribution to climate change.
- ◆ The process of developing a climate action plan can identify cost-effective opportunities to reduce GHG emissions that are relevant to the state.
- ◆ The individual characteristics of each state's economy, resource base, and political structure provide different opportunities for dealing with climate change.
- ◆ Without targets for emissions reductions, incentives for cleaner technologies, or other clear policies, climate action plans will not achieve real reductions in GHG emissions.

RGGI (Regional GHG Initiative)

- ◆ Multi-state cap-and-trade program
 - ◆ CT, DE, ME, NH, NJ, NY, RI, VT
 - ◆ DC, MD, PA observing
- ◆ Phase 1 is power sector only
- ◆ 1990 levels by 2010
- ◆ 10% below 1990 by 2020
- ◆ 75-85% below current levels in the long run
- ◆ Rules are being finalized 8 states now



California Has Signed into law

- ◆ Reduce GHG Emissions to 1990 levels by the year 2020

California & RGGI Announced they will link the two systems together

Climate Trust

- ◆ 501(c) non-profit start up formed in 1997 to meet needs of Oregon's new CO2 standard
- ◆ New power plants must offset approximately 17% of CO2 emissions
 - ◆ Develop CO2 offset project themselves
 - ◆ Buy offsets created by other project developers
 - ◆ Pay Carbon Trust to purchase offsets on their behalf
- ◆ Offsets can only be CO2 (no methane or other GHG equivalent)
 - ◆ Carbon sequestration may qualify

Chicago Climate Exchange (CCX)

- ◆ Multi-sector cap & trade program supplemented with project-based offsets
- ◆ Price discovery & dissemination of market information
- ◆ 2003 – 2006: Reduce emissions to 1%, 2%, 3% and 4% below 1998 – 2001 baseline

**Emission Reductions that meet all global
“credibility” tests...**

**Emission Reductions that enable emitters to meet
their compliance requirements...**

- ◆ Government Approval
- ◆ 3rd Party Verified
- ◆ Science based
- ◆ Audited
- ◆ Clear Title
- ◆ Data Transparency
- ◆ Permanence
- ◆ Additionality
- ◆ Long term contracts/relationships
- ◆ Sustainable Economics
- ◆ Guaranteed Delivery
- ◆ Kyoto Compliance
- ◆ Kyoto Approved Project Development Design
- ◆ Environmental Co-Benefits

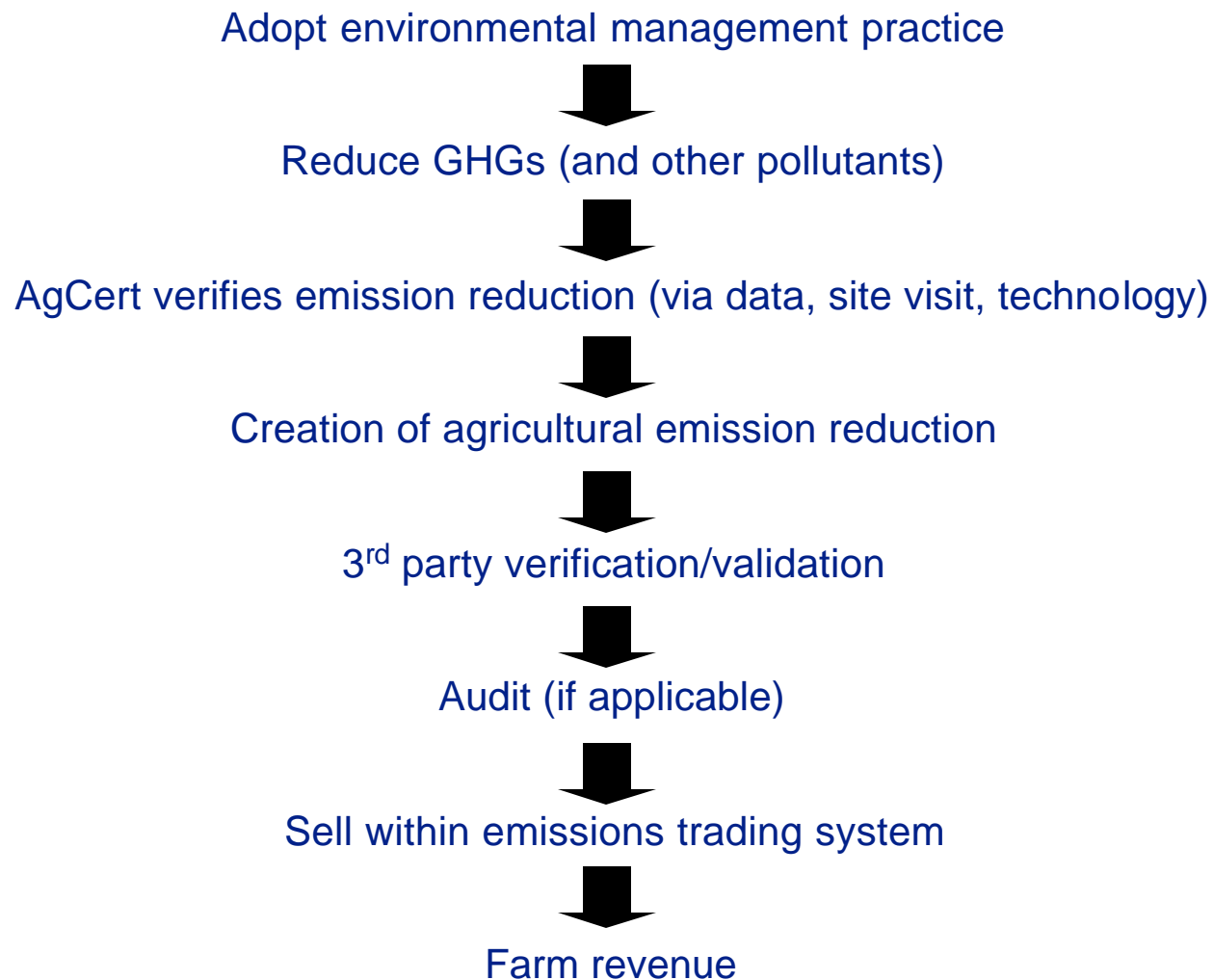
Summary: The AgCert Solution

AgCert provides:

- ◆ Government protocols – developed with USDA and other government entities
 - ◆ **Globally applicable UNFCCC-approved GHG emission reduction methodology (AM0016)**
 - ◆ **Science partnerships:**
 - **USDA CRADA #58-3K95-2-949**
 - **BNL CRADA #BNL-C-04-08**
- ◆ Geo-referenced, time/date stamped data; transparent access
- ◆ Rigorous 3rd party verification
- ◆ ISO Certification
- ◆ Aggregated supply: simplicity and dependability for buyers and sellers
- ◆ AgCert manages verification, registration and liability issues

How the ER Aggregation Process Works

(and how to capture the dollars in carbon credits)



THANK YOU FOR YOUR TIME!

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